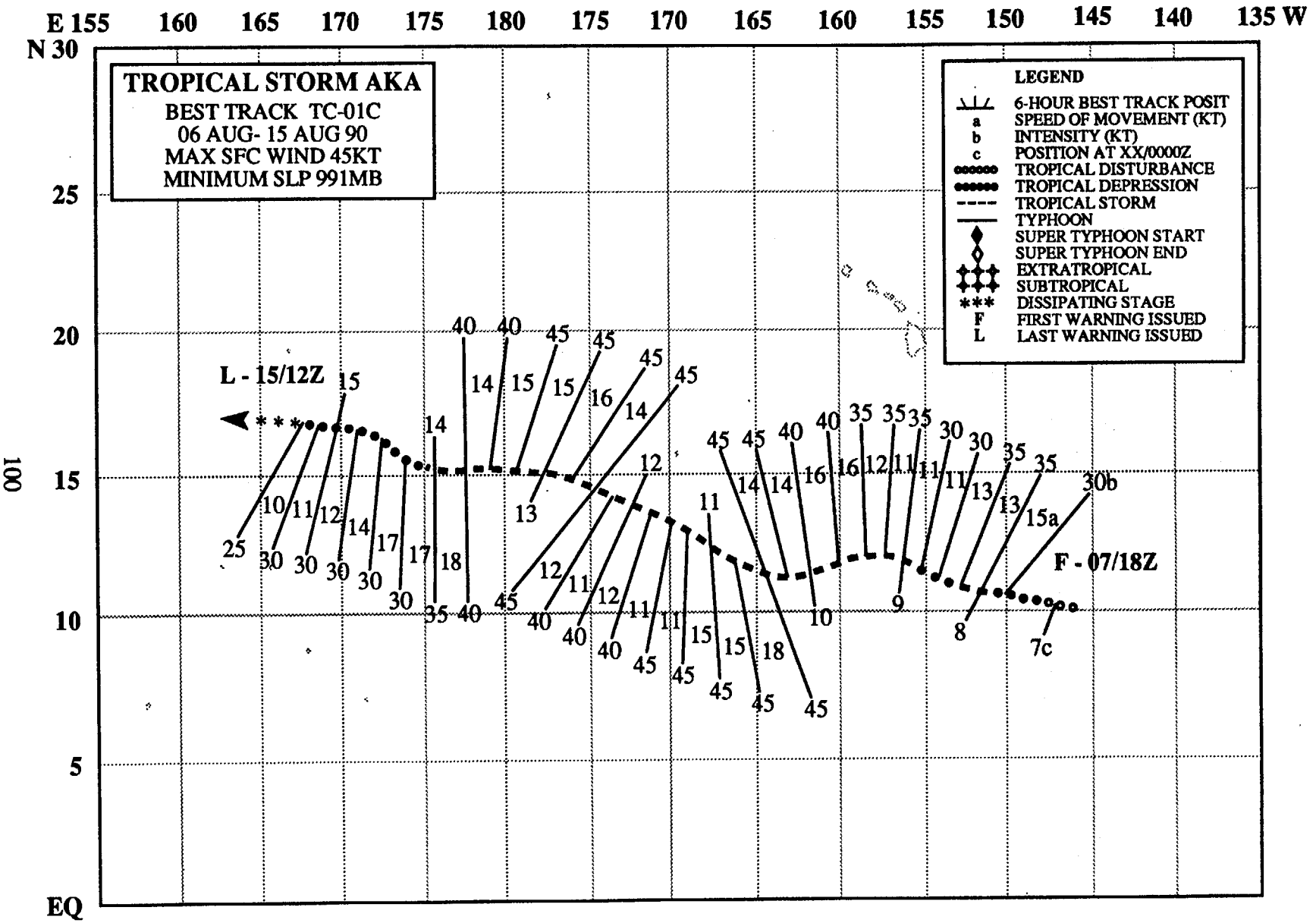
E 155 160 165 170 175 180 175 170 165 160 155 150 145 140 135 W
N 30
25
20
15
10
5
EQ
100
TROPICAL STORM AKA
BEST TRACK TC-01C
06 AUG- 15 AUG 90
MAX SFC WIND 45KT
MINIMUM SLP 991MB
LEGEND
6-HOUR BEST TRACK POSIT
a SPEED OF MOVEMENT (KT)
b INTENSITY (KT)
c POSITION AT XX/0000Z
TROPICAL DISTURBANCE
TROPICAL DEPRESSION
TROPICAL STORM
TYPHOON
SUPER TYPHOON START
SUPER TYPHOON END
EXTRATROPICAL
SUBTROPICAL
*** DISSIPATING STAGE
F FIRST WARNING ISSUED
L LAST WARNING ISSUED
L - 15/12Z
F - 07/18Z

TROPICAL STORM AKA (01C)

I. HIGHLIGHTS

Aka was the only tropical cyclone of 1990 to be in warning status when it crossed the date line from the central into the western North Pacific Ocean. It remained embedded in the trade wind trough, tracked steadily west-northwestward and never developed beyond tropical storm intensity.

II. CHRONOLOGY OF EVENTS

071800Z - First advisory issued by the Central Pacific Hurricane Center (CPHC) due to increased organization and amount of deep central convection.

090000Z - Upgraded to tropical storm intensity after convective organization improved and the first Dvorak intensity estimate of 2.5.

131500Z - Final advisory issued by CPHC and responsibility for Aka passed to the Joint Typhoon Warning Center (JTWC).

131800Z - First warning on Aka issued by JTWC.

140600Z - Downgraded to a tropical depression due to the loss of central convection resulting from persistent vertical wind shear.

151200Z - Final warning (dissipating over water) followed further weakening from vertical shear associated with a vigorous TUTT low to the northwest.

III. TRACK AND MOTION

Aka formed in the trade wind trough southeast of Hawaii (Figure 3-01C-1), remained embedded in the broad low-latitude easterlies and tracked steadily west-northwestward.

IV. INTENSITY

Although Aka persisted for nine days, its convection never became well organized. The system was maintained by low-level easterlies converging into the trade wind trough. However, the upper-level outflow pattern was continually disrupted by vertical wind shear. On 15 August, the low-level flow carried Aka westward under a vigorous TUTT low near the dateline. The upper level sheared away, the low level circulation dissipated and only the TUTT low remained (Figure 3-01C-2).

V. FORECASTING PERFORMANCE

Overall JTWC forecast performance is shown in Figure 3-01C-3. The NOGAPS prognostic series correctly maintained a mid- and low-level ridge north of Aka. Forecasters were uncertain about how long the tropical cyclone would persist as it approached the TUTT low. When dissipation became obvious, the forecast period was truncated and the final warning issued.

VI. IMPACT

No information available.

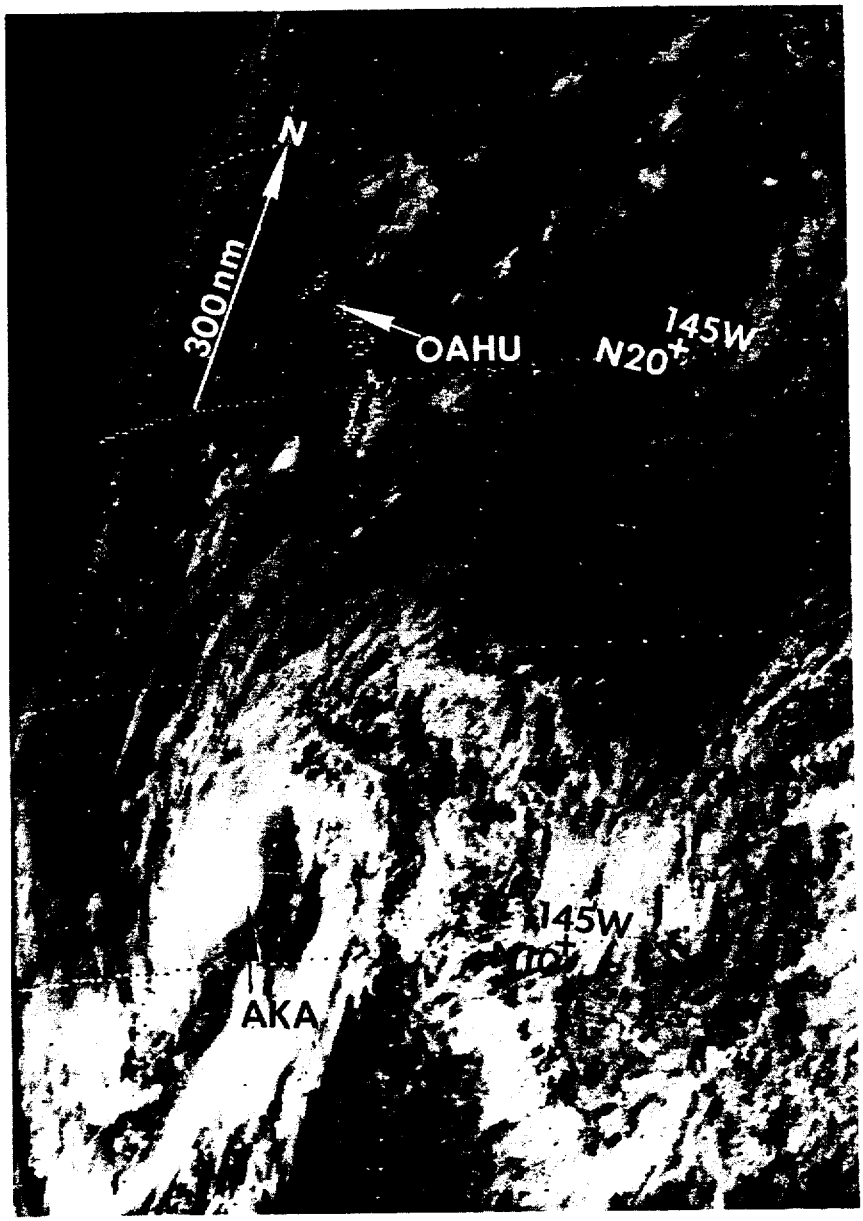

Figure 3-01C-1. Aka reaches tropical storm intensity south of the Hawaiian Islands (090101Z August GOES Central visual imagery - photo courtesy of the National Weather Service Forecast Office, Honolulu, Hawaii).

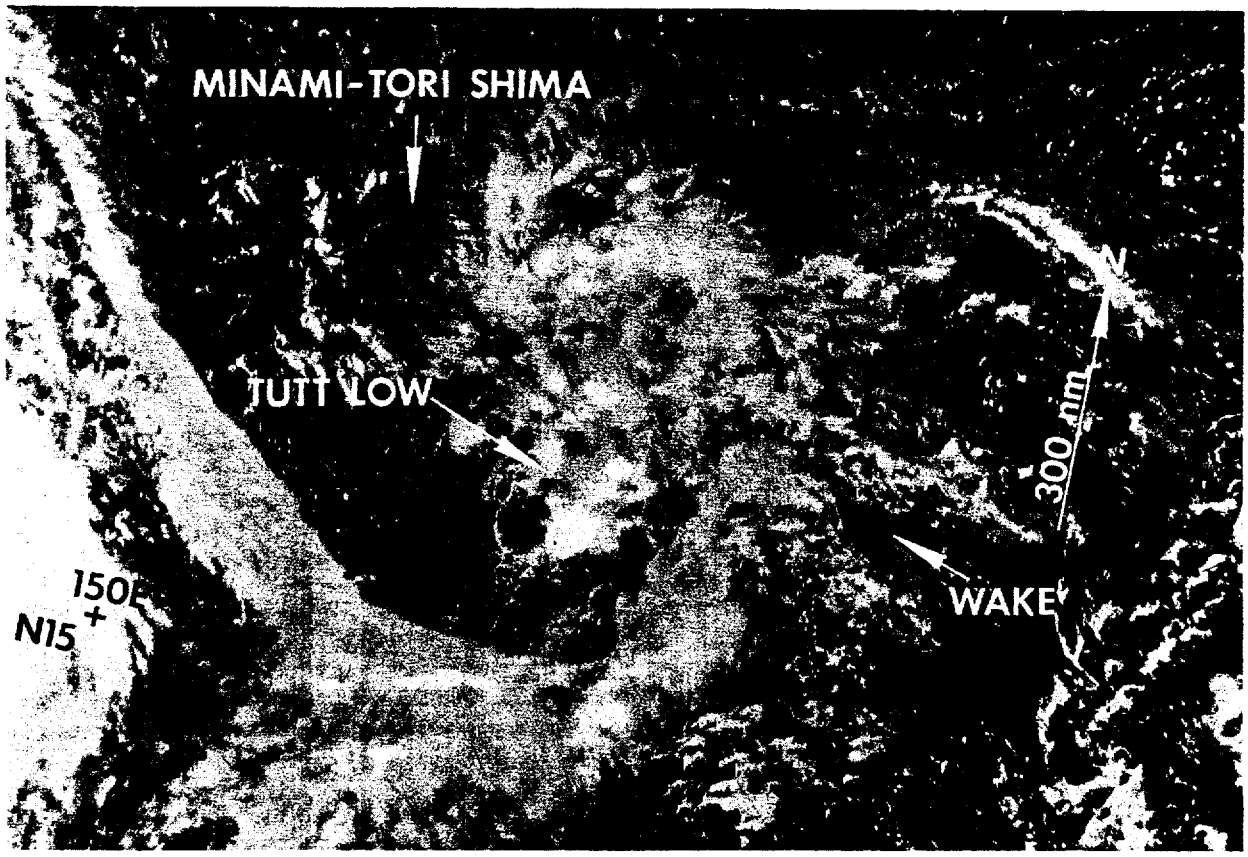

Figure 3-01C-2. The vigorous TUTT low with its random convective elements dominate the area where Aka dissipated 15 hours before (160308Z August NOAA visual imagery).

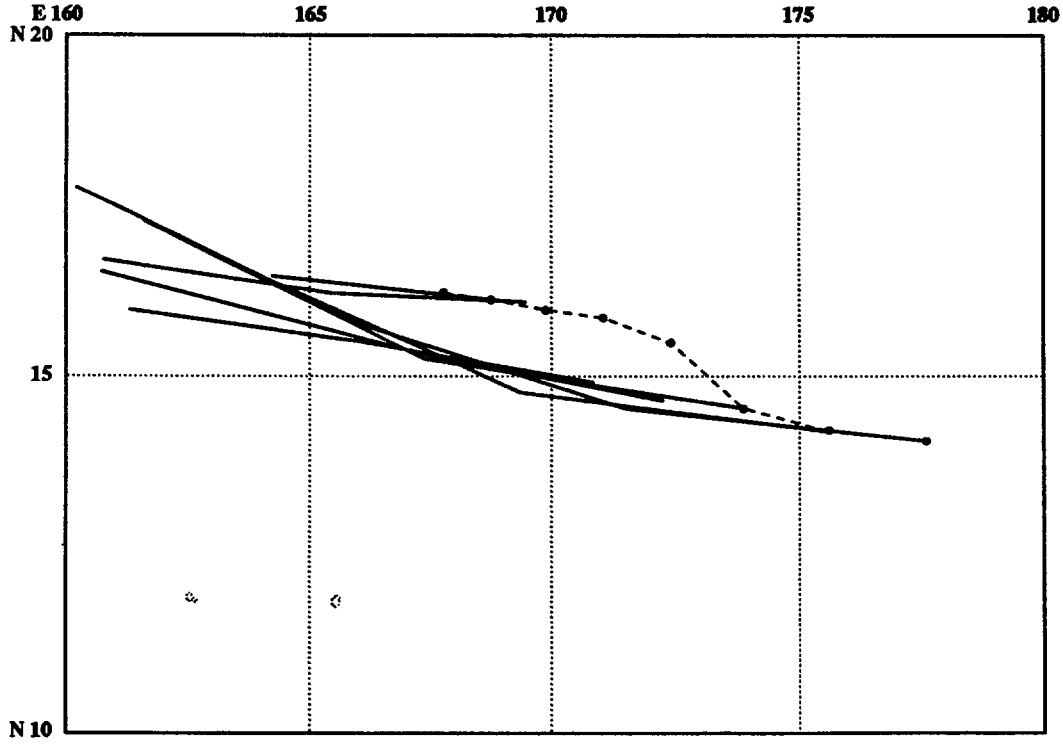

Figure3-01C-3. Summary of JTWC forecasts (solid lines) for Aka is superimposed on the final best track (dashed line).